Journal of Science Education and Technology

Vol. 9, No. 1 **March 2000**

CONTENTS

From Innovation to Change: Forging a Physics Education Reform Agenda for the 21st Century 1
Sheila Tobias

Virtual Solar System Project: Learning Through a Technology-Rich, Inquiry-Based, Participatory Learning Environment 7
Sasha A. Barab, Kenneth E. Hay, Kurt Squire, Michael Barnett, Rae Schmidt, Kristen Karrigan, Lisa Yamagata-Lynch, and Christine Johnson

Teacher Education for Sustainability. I. Global Change Education: The Scientific Foundation for Sustainability 27
Lynn L. Mortensen

Teacher Education for Sustainability. II. Two Teacher Education Projects from Asia and the Pacific 37
John Fien and Rupert Maclean

The Design of Learning Software: Principles Learned from the Computer as Learning Partner Project 49
Judith Stern

Spaces for Change: Gender and Technology Access in Collaborative Software Design 67
Cynthia Carter Ching, Yasmin B. Kafai, and Sue K. Marshall

Toward an Understanding of Authentic Learning: Student Perceptions of an Authentic Classroom 79
Molly Nicaise, Terresa Gibney, and Michael Crane

Journal of Science Education and Technology

Vol. 9, No. 2 **June 2000**

CONTENTS

PAUL F-BRANDWEIN LECTURE

The Identification and Development of Giftedness as a Paradigm for School Reform 95
Joseph S. Renzulli

REGULAR PAPERS

Using Space Imagery in the Science Classroom: Efforts of the CASDE Project 115
Neal Grandgenett, Paul Clark, Neal Topp, Bob Pawloski, Roger Kassebaum, Elliott Oster, and Bill Schnase

An Examination of the National Educational Logitudinal Study (NELS:88) Database to Probe the Correlation Between Computer Use in School and Improvement in Test Scores 121
Garbriela C. Weaver

STS: Adding Value to Research and Practice 135
David D. Kumar and Daryl E. Chubin

Development of Pupils' Classification Skills in Science Lessons: An Intervention of Computer Use 141
Kleopatra Nikolopoulou

The Disposition of Eleventh-Grade Science Students Toward Critical Thinking 149
David Ben-Chaim, Salit Ron, and Uri Zoller

High School Students' Critical Evaluation of Scientific Resources on the World Wide Web 161
Nathan Bos

Integrated Practical Education for Nurses 175
Roger B. Silberberg

Journal of Science Education and Technology

Vol. 9, No. 3 **September 2000**

CONTENTS

PAUL F-BRANDWEIN LECTURE

Watershed Education for Sustainable Development 183
William B. Stapp

REGULAR PAPERS

Do Elementary Science Methods Textbooks Facilitate the Understanding of Magnet Concepts? 199
Lloyd H. Barrow

Using Personal Digital Assistants in Clinical Supervision of Student Teachers 207
Kent J. Crippen and David W. Brooks

Measuring Change in Students' Attitudes Toward Science Over Time: An Application of Latent Variable Growth Modeling 213
Rani George

Education Television: "Let's Explore Science" 227
Kenneth P. King

The Impact of Generating Spontaneous Descriptions on Mental Model Development 247
Takahisa Furuta

Professors' Views on the Influence of Arab Society on Science and Technology 257
Abdullateef H. Haidar

xyZET: A Simulation Program for Physics Teaching 275
Hermann Härtel

Journal of Science Education and Technology

Vol. 9, No. 4 **December 2000**

CONTENTS

Knowledge Integration and Displaced Volume 287
Marcia C. Linn and Bat-Sheva Eylon

Algorithms, Visualization, and Mental Models: High School Students' Interactions with a Relative Motion Simulation 311
James M. Monaghan and John Clement

Web-Based Student Assessment for Program Evaluation 327
Elaine B. Coleman and William R. Penuel

Framework of a Decision-Theoretic Tutoring System for Learning of Mechanics 343
Peng-Kiat Pek and Kim-Leng Poh

Use of a World Wide Web Site Evaluation Tool in Chemistry 357
Paul C. Yates

Using Computers to Support a Beginning Teacher's Professional Development 367
Huann-shyang Lin and Houn-Lin Chiu